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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/718,007

11/20/2003

Alan Michael Jaffee

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29602

7590

08/13/2009

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EXAMINER

MATZEK, MATTHEW D

ART UNIT

PAPER NUMBER

1794

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/718,007	Applicant(s) JAFEE ET AL.	
	Examiner MATTHEW D. MATZEK	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 51-64, 71-84, 91-94 and 99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment dated 4/20/2009 has been fully considered and entered into the Record.

Claims 51-64, 71-84, 91-94 and 99 remain pending.

Claim Rejections - 35 USC § 112

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 82-84, 91-94 and 99 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim limitation of "...comprising a blend of fibers suitable for use as the scored and folded vertical webs spanning between an exposed mat and a backer mat in a compressible ceiling tile as described in published U.S. Patent Application No. 20020020142 filed April 23, 2001..." is improper. Claims may not incorporate or incorporate by reference another publication, but instead should clearly spell out the intended structure, composition, etc. of the invention. For purposes of examination the aforementioned claim limitation has been interpreted as an intended use limitation as it fails to provide any quantifiable guidance as to how the claimed article differs from other fibrous nonwoven mats in the same field of endeavor.

Claim Rejections - 35 USC § 103

3. Claims 51-64, 71-84, 91-94 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaffee (US 5,772,846) in view of Arkens et al. (US 5,661,213).

a. Jaffee discloses a nonwoven glass fiber mat comprising a major portion of glass fibers and a minor portion of polymeric fibers with crosslinkable binder (abstract). The ***mat may be any weight*** (emphasis added) but its preferred weight is from about 1.8 to about 2.2 pounds per 100 square feet for use as a facer (col. 3, lines 6-18). The invention of Jaffee is not limited to its use as a facer, but may also be made into other forms such as an accordion-shaped filter (col. 2, lines 20-28). Examiner takes the position that since the invention of Jaffee may be of any basis weight and the fact that the reference also discloses that the preferred basis weight is ***about 2.2 pounds per 100 square feet*** (emphasis added) it would have been obvious to one of ordinary skill in the art to have modified the applied nonwoven glass fiber mat to have a basis weight of about 2.3-2.6 pounds per 100 square feet based upon the desired properties of the final product and its intended use (i.e. filter, facer, etc). Jaffee fails to teach a preferred thickness for the nonwoven glass fiber mat, but does provide a singular example that has a thickness of 31 mils (Example 2). Mat thickness, like basis weight, is chosen depending on the desired properties of the final product and said product's intended use. Therefore, it also would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the invention of Jaffee with a mat thickness of between 38 and 48 mils. The applied invention can also be pleated or thermoformed to produce a variety of composites

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and laminates (abstract) and as such is suitable for use as a scored and folded vertical web as now claimed.

b. Jaffee's nonwoven mat comprises glass fibers with diameters of between about 9 and 20 microns, preferably 16 microns, and lengths of around one inch (col. 3, lines 8-10, 34-61). The nonwoven mat further comprises polyester fibers of 1.5 denier with lengths as low as 0.25 inches (Example 2) and acrylic binder. The binder may be present in the nonwoven mat at up to 35 weight percent of said mat (abstract) and Example 2 provides the specific value of 20 weight percent, which meets the binder level of claim 51 and Example 4 recites binder levels of 25 weight percent.

c. Example 2 of Jaffee uses a fiber blend comprising 85 weight percent glass fiber and 15 weight percent polyester fiber. The relative amounts of glass and polyester fibers is a result-effective variable affecting its strength and the degree of skin irritation caused to the invention's handlers (col. 6 lines 6-39). Consequently, absent a clear and convincing showing of unexpected results demonstrating the criticality of the claimed ratio, it would have been obvious to one of ordinary skill in the art to optimize this result-effective variable by routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977).

d. Example 2 provides for a stiffness of 45 and the instantly claimed invention recites a Taber stiffness of 50. Alan Jaffee, who is also an inventor in the applied patent, has attested that while not explicitly stated the applied reference's stiffness values are in fact Taber Stiffness values with units of gram centimeters. The applied reference teaches that the stiffness value of 45 was higher than desired for a facer, however one of ordinary

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skill in the at the time of the invention would have found it obvious to have modified the applied nonwoven glass fiber mat to have a Taber stiffness of at least about 50 grams centimeters based upon the desired properties of the final product and its intended use (i.e. other than a facer). Jaffee fails to use a binder that is at least partially cured and before drying and curing comprises a homopolymer or a copolymer of polyacrylic acid and a polyol.

e. Arkens et al. relates to a formaldehyde-free curable aqueous composition containing a polyacid, a polyol and a phosphorus-containing accelerator. The composition may be used as a binder for heat resistant nonwovens such as nonwovens composed of fiberglass. (Abstract) Arkens et al. teaches nonwovens that contain heat-resistant fibers such as for example, aramid fibers, certain polyester fibers, glass fibers, among others. By “heat-resistant fibers” is meant (in Arkens et al.) fibers which are substantially unaffected by exposure to temperatures above 125°C (col. 8, lines 23-31). The reference teaches that the polyacid may be a compound with a molecular weight of less than about 1000, bearing at least two carboxylic acid groups and teaches that it may be a polymeric acid that is preferably an addition polymer formed from at least one ethylenically unsaturated monomer (such as methacrylic acid, acrylic acid, among others) (col. 3, line 45 through col. 4, lines 1-5). The reference further teaches that the polyol may be triethanolamine (col. 6, lines 1-6). The formaldehyde-free curable aqueous composition may also contain emulsifiers, pigments, fillers, colorants, wetting agents (*equated to hydrophilic material*), among other components (col. 6, lines 52-57). The

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reference teaches a nonwoven substrate made from a fiberglass fiber at 1.25 inches in length with a binder add-on of 28%.

f. Since both references are directed to glass fiber nonwoven mats comprising heat-resistant fibers (aramid, polyester, glass fibers, etc.), the purpose disclosed by Arkens et al. would have been recognized in the pertinent art of Jaffee.

g. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of Jaffee and provide them with the binder composition of Arkens et al. with the motivation of being able to carry out the drying and curing functions in two or more distinct steps, if desired (col. 8, lines 42-60). This process is referred to as “B-staging”. The limitation of “a binder that is at least partially cured and consists essentially of, before drying and curing, a homopolymer or a copolymer of polyacrylic acid and a polyol” is met by the composition of Arkens et al. as the claimed process is the “B-staging” of Arkens et al.

h. Although the prior art of Jaffee in combination with Arkens et al. does not explicitly teach the claimed ratio of wet tensile strength to dry tensile strength or air permeability it is reasonable to presume that this property is inherent to a mat from the combination of Jaffee and Arkens. Support for said presumption is found in the use of like materials (i.e. nonwoven mat formed in the same manner that includes glass fibers and polyester fibers, with a binder that prior to curing includes a polyacid and a polyol similar to the one claimed herein). The burden is upon Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of wet tensile strength/dry tensile strength or air permeability would obviously have been present one

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the product from the combination of Jaffee and Arkens is provided. Reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80.

i. With regards to the claimed property of passing the NFPA Method #701 Flammability Test, it is the Examiner's position that such property will also be inherent to the structure from the combination of Jaffee and Arkens et al. for the same reasons stated in the paragraph above.

Response to Arguments

4. Applicant's arguments filed 4/20/2009 have been fully considered but they are not persuasive.

5. Applicant argues that Examiner has failed to cite a statute, rule or case law to support the indefinite rejection of claims 82-84, 91-94 and 99 and argues that the citation of a patent publication lends itself to be more specific than the use of a general term. Due to its alleged greater specificity, Applicant feels that the claims that reference the aforementioned patent publication would lead to a more concise claim than the use of a general term. Furthermore, Applicant argues that the matter incorporated into the claim is not essential, but does add to the definiteness of the claim because claimed invention does in fact perform in the claimed manner.

6. Applicant has failed to incorporate US PG Pub 2002/002020142 by reference into the instant specification. Furthermore, Examiner takes the position that the rejected claims fail to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The claim limitation of "...comprising a blend of fibers suitable for use as the scored and folded vertical webs spanning between an exposed mat and a backer mat in a compressible ceiling tile as described in published U.S. Patent Application No. 20020020142 filed April 23, 2001..." is improper. Claims may not incorporate or incorporate by reference another publication, but instead should clearly spell out the intended structure, composition, etc. of the invention. The manner in which the claimed invention is used as a compressible ceiling tile is essential matter. The definition of "essential material", copied from 37 CFR 1.57(c) is provided here, "that which is necessary to (1) provide a written description of the claimed invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as

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to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and set forth the best mode contemplated by the inventor of carrying out the invention as required by the first paragraph of 35 U.S.C. 112, (2) *describe the claimed invention in terms that particularly point out and distinctly claim the invention as required by the second paragraph of 35 U.S.C. 112*, or (3) describe the structure, material, or acts that correspond to a claimed means or step for performing a specified function as required by the sixth paragraph of 35 U.S.C. 112.” Essential matter is clearly missing from the rejected claims as they fail to particularly point out and distinctly claim the invention as required by the second paragraph of 35 U.S.C. 112. The referencing of a pre-grant publication in a claim is not concise and does not provide greater guidance as to how the claimed fibrous nonwoven mat is to be used as it requires one to review and incorporate essential matter from another document in order to have a complete understanding of the claimed invention. A claim, by itself, should be a self-contained body that one of ordinary skill in the art should be able to understand based upon its own substance, without needing guidance from a completely separate document.

7. Applicant argues that the claimed invention was not obvious to Jaffee, the inventor of the applied art and a present co-inventor, for the reasons set forth in the previously submitted declaration and as such would not be obvious in light of the prior art. Examiner has previously considered the aforementioned declaration and has not found the declaration or its arguments persuasive in its position that the claimed invention is non-obvious in light of the applied prior art.

8. Applicant argues that Examiner has either misread or misunderstood, or has fallen into improper hindsight reconstruction to arrived at the claimed invention. In making the argument

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that Examiner has misread or misunderstood the applied references Applicant has failed to point to a specific point or concept to which he feels Examiner has misread or misunderstood, leaving this argument without merit. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

9. Applicant argues that Examiner has failed to explain why one of ordinary skill in the art would want to increase the thickness and basis weight of the applied Jaffee mat to that which is claimed to make a mat for scoring and folding. Furthermore, increasing the thickness and basis weight to the claimed levels would be more expensive to make and ship and the Examiner has not shown that the properties needed for use as the scored and folded collapsible web are present. The Jaffee *mat may be any weight* (emphasis added) but its preferred weight is from about 1.8 to about 2.2 pounds per 100 square feet for use as a facer (col. 3, lines 6-18). The invention of Jaffee is not limited to its use as a facer, but may also be made into other forms such as an accordion-shaped filter (col. 2, lines 20-28). Examiner takes the position that since the invention of Jaffee may be of any basis weight and the fact that the reference also discloses that the preferred basis weight is *about 2.2 pounds per 100 square feet* (emphasis added) it would have been obvious to one of ordinary skill in the art to have modified the applied nonwoven glass fiber mat to have a basis weight of about 2.3-2.6 pounds per 100 square feet based upon the

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desired properties of the final product and its intended use (i.e. filter, facer, etc). Jaffee fails to teach a preferred thickness for the nonwoven glass fiber mat, but does provide a singular example that has a thickness of 31 mils (Example 2). Mat thickness, like basis weight, is chosen depending on the desired properties of the final product and said product's intended use.

Therefore, it also would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the invention of Jaffee with a mat thickness of between 38 and 48 mils. The applied invention can also be pleated or thermoformed to produce a variety of composites and laminates (abstract) and as such is suitable for use as a scored and folded vertical web as now claimed.

10. Applicant argues that there is no basis for the allegation that the mats of Jaffee are capable for scoring and folding because the mat is not heated to make the binder plastic before scoring and folding. The applied references when taken in combination meet the compositional and structural limitations of the instant claims and as such would necessarily ***be capable*** of being scored and folded. In response to Applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., scoring and folding) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

11. Applicant argues that Jaffee teaches away from the claimed thickness and stiffness, therefore, it would not have been obvious to have modified the mat of Jaffee to arrive at the claimed thickness and stiffness. Examiner has taken Jaffee's preferred embodiments into consideration, however the applied reference clearly states that the mat may be of any basis

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weight and has clearly articulated why one of ordinary skill in the art would have modified the Jaffee mat to arrive at the claimed invention without destroying the disclosed invention.

12. Applicant argues that Jaffee deals with a very different problem (i.e. forming a facer) than that of the claimed invention and the examples have improved flexibility over the prior art. The mat of Jaffee is not limited to being used as a facer and the disclosure states that the mats may be of any basis weight. One of ordinary skill in the art would have recognized that the mat of Jaffee may serve as a base which can be modified to suit an intended end use. The disclosure is intentionally open-ended so that it may be designed to suit a specific function.

13. Applicant argues that since none of the Jaffee mats contain any formaldehyde, there would be no motivation to modify Jaffee with the binder of Arken et al. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the mats of Jaffee and provide them with the binder composition of Arkens et al. with the motivation of being able to carry out the drying and curing functions in two or more distinct steps, if desired (col. 8, lines 42-60). This process is referred to as “B-staging”. The limitation of “a binder that is at least partially cured and consists essentially of, before drying and curing, a homopolymer or a copolymer of polyacrylic acid and a polyol” is met by the composition of Arkens et al. as the claimed process is the “B-staging” of Arkens et al. The fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

14. Applicant argues that the most reasonable place to look for teachings to solve the problem solved the claimed invention would be in the publications for compressible ceiling tiles

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and in any patents covering the mats previously used for the collapsible webs or dividers in those compressible ceiling tiles. Both Jaffe and Arkens et al. are directed to heat-resistant nonwoven fiberglass mats bound together with binder. Fiberglass mats are used in a wide variety of applications, many of which are used in the construction of buildings for differing functions. This requires the fiberglass mats to have differing properties, shapes and characteristics. Starting with one base product which can later be tailored to suit a particular end purpose would be highly desirable by minimizing the number of different products used in construction. Again, the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.

15. Applicant argues that Examiner has failed to give weight to the claimed properties and that it is improper to ignore or give little weight to property limitations in the claims when the composition of the item having the properties is different than reasonably taught by the references. Examiner has pointed out how and why one of ordinary skill in the art would have modified the applied references to arrive at the claimed structure and composition. As Examiner has previously pointed out, reliance upon inherency is not improper even though rejection is based on Section 103 instead of Section 102. *In re Skoner, et al.* (CCPA) 186 USPQ 80. Furthermore, Applicant has failed to demonstrate how and why the claimed properties are unexpected, not just different.

16. Applicant argues that there is nothing to suggest to one of ordinary skill that the binder of Arkens et al. would produce the properties critical to performing well in the collapsible dividers in the compressible ceiling tile. Examiner has clearly articulated how one of ordinary skill in the

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art would have combined and modified the applied prior art to arrive that claimed article's composition and structure, which would have the properties so the invention may be used in the intended manner. Applicant has failed to point out why the combination of references would fail to possess the desired properties when the compositional and structural limitations have been met.

17. Applicant argues that he has uncovered another unexpected result in that expensive fine glass fibers are not required to arrive that claimed properties and has cited co-owned patents for comparison to demonstrate non-obviousness. This argument is not germane because Applicant is not comparing the claimed invention to the Jaffee mat, but instead to its own patented inventions, which are not the closest prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW D. MATZEK whose telephone number is (571)272-2423. The examiner can normally be reached on M-F, 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Larry Tarazano can be reached on 571.272.1515. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew D Matzek/
Examiner, Art Unit 1794

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